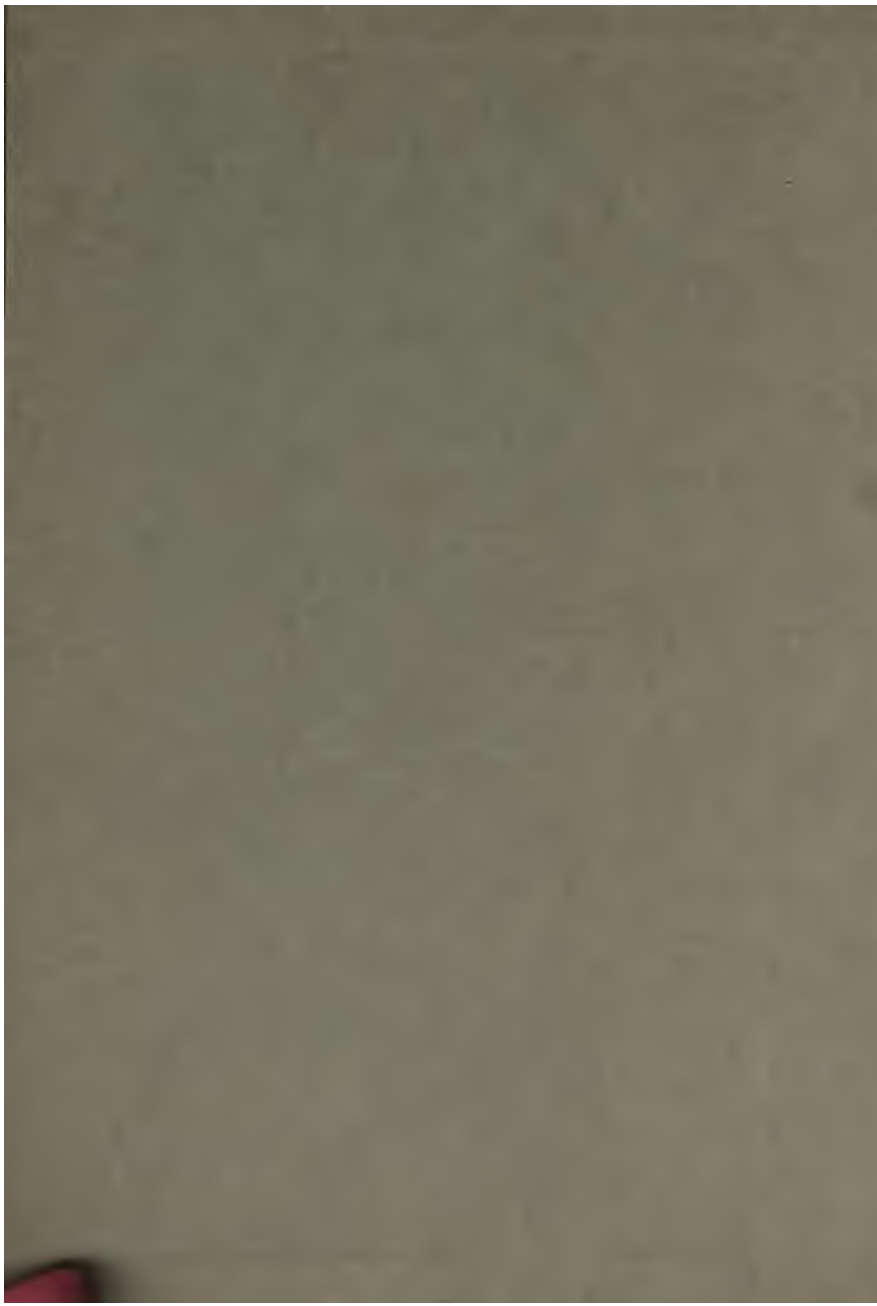
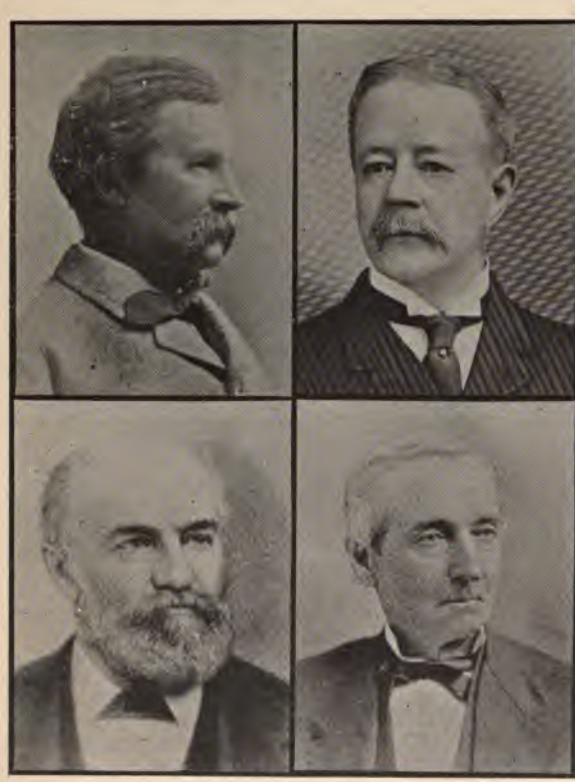




CHARLES PARRISH IRVING A. STEARNS

GEORGE B. MARKLE ARIO PARDEE

THE BLACK TRAIL OF ANTHRACITE

By S. R. SMITH.

AUTHOR OF
"THE STORY OF WYOMING VALLEY,"
ETC., ETC., ETC.

ILLUSTRATED BY THE AUTHOR.

PUBLISHED BY
S. R. SMITH,
KINGSTON, PA.
1907.

I DEDICATE THIS BOOK TO MY FRIEND,
FREDERIC CORSS.

There are few things so enjoyable as writing and publishing books when the reading public purchase your productions and are kind. As this is my experience, accept my thanks.

Kingston, Pa., January 6, 1907.

A WYOMING VALLEY BREAKER.

CHAPTER I.

THE STORY of the coal mines, of the anthracite coal fields, is an interesting and important part of the history of this country. The years of struggle against unfavorable conditions and the splendid victory achieved are worth recording and reading. These long years of struggle by the early settlers were years of constant defeat before they possessed the land. The men who have made our anthracite one of the greatest blessings of this age fought long and hard before their coal came into general use and mining became profitable. The world has this story only in fragments. Its heroes and martyrs sleep unsung, and the great army who have mined the coal are forgotten.

The intense and smokeless flame of burning anthracite is one of the wonders of the world; no other flame so beautiful, none that contains such marvelous power; that can perform such mighty miracles; it has created a new civilization, and is a very important factor in the accessions we have made in every department of industrial activity.

The men who developed these coal fields taught the world the unsuspected powers of the carbonized sunbeams that they dug out of the tomb down deep in the earth. They have put the world in their debt and made us rich, while most of them died impoverished.

This history is tragic, dramatic and romantic. The miner, down in the bowels of the earth, many hundred feet below the surface, digs in dense forests that flourished long ago. The black mineral he digs is a store house of an energy that can hold and lift any load it can grip. A thinking man must conclude that the Creator took thought of our necessities when He packed away heat and energy that we are releasing to serve our needs.

There is reason to believe that the Indians made some use of coal, and that the race who preceded them also used it. The oldest transfers of property, in a few cases, refer to the coal and attach value to it. In the Wyoming Valley it was exposed in nearly every ravine, and at an early day was used by the blacksmiths in their forges. Wood was abundant, grates and stoves were not used, consequently coal was not needed.

The early pioneers, who came to Wyoming Valley, hunted for precious metals, and were careful to consider the suspected valuable ore in their buying and selling

of land. These men, up until the beginning of the nineteenth century, had no time to develop any of the mineral resources; they were fighting desperately to hold the land and obtain a bare subsistance. After they had obtained valid titles to the soil and were not obliged to protect themselves from the Pennamites, they heeded the rock coal, as they called the anthracite.

The part of what is now the anthracite coal fields, that was settled first, was the Wyoming Valley. Coal was first mined, burnt and taken to market by citizens of the valley. Here is the center of the coal trade at the present time, and here is the greatest deposit in the coal fields.

The great veins of coal exposed along the foot of the mountains received attention from the wide awake Yankee. He was aware that at that time there was no market for it, and that it was not considered of any value, nevertheless, he proposed to find a way to make it burn and create a market. The only outlet he had without carting it over the mountains, was by the river, which was dangerous and uncertain, as it was dotted with great boulders after it joined the West Branch.

The first names that appear in the history of hard coal are those of the two Gore brothers, who used the coal in their blacksmith forges in 1769.

In 1776 the trading Yankee shipped it down the river on rafts to Carlisle, where the government was manufacturing arms, and sold it, for the value of hard coal for heating iron was recognized. For the next thirty years the coal was undisturbed, and outside of a blacksmith shop was as useless as any other rock.

Men, up to the beginning of the nineteenth century, were busy hunting Indians and contesting with the Pennamites for possession of the soil, consequently they did not devote much of their time to hunting minerals. They had great stretches of primitive forest that was of more value to them than coal. Yet we have stories handed down to us that recount how men, with more zeal and imagination than scientific knowledge, explored and prospected, hoping to find rich veins of precious ore. These itinerant dreamers, climbing up their crude ladders, to find in the faces of the ledges glittering metal, found only lusterless coal, for which the world had no use. Besides these gold hunters there were men of solid scientific attainments who comprehended clearly that there was power locked up in the black rock that, when men had mastered the hard and pressing problems that confronted them, would be their most valuable possession. The geological problem this valley presented, we are inclined to believe, was not mastered until holes were bored down to the bed rock in the bottom of the valley. Some may

JOHN MARKLE
ELMER H. LAWALL

W. G. PAYNE
S. D. WARRINER

have concluded that the bed of the valley was filled with one of the most valuable coal deposits in the world, yet we have no conclusive evidence that it was more than suspected, by the few men who could intelligently consider the subject.

Stop and think, if you can, what a part the rock coal which was not of sufficient value to dig a century ago, has acted in the great drama of the nineteenth century on this continent. The despised rock, dug out of our valley, fills the land.

How plainly we can see, as we look back, that the destinies of men are not presided over by a blind power that is neither wise or just. The evolution of anthracite dispels such an illusion. When the people needed coal they found out its use and value. They hastened to aquaint the nation with its usefulness and to supply the demand they created. They were equal to the tremendous task they undertook. It was for the pioneers a fruitless struggle. No obstacle daunted them and no number of defeats discouraged them. They were fighters and persevered until they conquered.

At this time there appears upon the scene just the man necessary. This leader, and in no very restricted sense, the father of the anthracite coal industry, was Jacob Cist.

He was a man of character and brains, one of the most advanced scientists of his day, and a man of action. He realized that the condemned rock coal was almost pure carbon and contained the greatest amount of pent up energy of any substance known. He knew there must be a way to release this power and utilize it. That was the first problem. As the Wyoming Valley was cut off from the outside world he went to the Lehigh region and associated himself with two men of enterprise, Weiss and Hillgrave. They determined to solve the problem of burning anthracite coal. They sent, or took, some Lehigh coal to Philadelphia where, at the Philadelphia Bank, Fred Graff and Oliver Evans solved the problem of air draught and successfully burned our coal, both in a grate and in a stove. This was in 1802. Jacob Cist, then, with some other gentlemen, began to mine coal at Summit Hill and ship it down the Lehigh to the Delaware to Philadelphia. The people were using imported coal, and only used that for forges, consequently the demand was not great, as the manufacturing interest was in its infancy, as nearly every thing used, that was manufactured, was imported. The people looked upon the hard coal as unsalable, and these pioneers failed in their project. Cist evidently returned to Wilkes-Barre, and twelve or thirteen years later, with Charles Miner and others, cut the gordian knot.

There is no indication that the people of the valley

heard of the successful experiment made in Philadelphia, for up to 1804 all efforts in the valley to burn anthracite with an air blast had failed. Evidently Evans and Goff's success had not attracted any attention in Philadelphia. The Quakers were wedded to foreign bituminous and cared little for anything the Yankee, whom they wasted little brotherly love upon, had for sale. They had committed every atrocity in the calendar of crime to take this territory from the men they hated and feared more than the savage. Had they known the value of this coveted territory the Yankees would have had to fight longer than they did. Probably they would never have owned and mined this great coal deposit. Providence willed that the only men equal to the task should perform it.

The Yankee loves to undertake the supposed impossible. They must find a way to burn their coal. In 1808 Judge Jesse Fell, at his tavern at the corner of Washington and Northampton streets, Wilkes-Barre, successfully burned anthracite in a grate. Judge Fell was a Quaker from Berks county, and a blacksmith by trade. His first grate was made of hickory sticks. He invited a number of his friends to come and see the experiment, most of them stayed away, so as not to witness his embarrassment. In a little while grates were erected in the homes all over the valley, and the wood age began to give way to the coal age.

Like all great discoveries, this one did not awaken except, perhaps, in the minds of a few, any vision of what we behold as we see what a century has brought to pass.

The story of the struggle of our forefathers to carry coal to market and establish a coal trade, begins in 1807. The first of a long list of men, many of whom never achieved gain or glory, was Abig Smith, of Shawnee Town, now Plymouth. There was a nine-foot vein exposed on Ransom's Creek, at that place, and another one seven feet thick on the Nanticoke creek. Mr. Smith succeeded in floating an ark load of coal to Columbia. He would have done as well if he had brought down a raft load of poetry. His experience in trying to sell his coal would make an interesting chapter for a novel. As an experiment, it was not encouraging, and to any one except a Yankee would have been distressing. All there was left for the proprietor and crew to do was to walk back and leave the ark tied to the shore. What glory there was in this second plunge out into the world, that really marks the beginning of years of disaster, the story of which can never be written, should be conceded to Plymouth, and the name of Smith should be written with those we should, yet do not, go out of our way to honor.

The next year Judge Fell showed the people that they had coal that would burn. Our friend Smith, as a man

of sense and not afraid of anything, joined with his son John, started down the river with a grate and another ark load of coal. They proposed to erect the grate in the chimney of an accommodating citizen and teach the Dutch and other citizens how to burn their black rocks and make the burning of it as common as the name they bore.

Most beginnings of epoch-making events or movements, as well as great revolutions, begin in the most commonplace and natural manner conceivable. The projectors are concerned simply with the enterprise as a business venture. The Smiths were splendid business men, and succeeded in introducing the anthracite to the people along the Susquehanna, and teaching the wood-burners how to burn coal. This resulted in their having a market that, when the war with England, in 1812, cut off the foreign coal, they extended to Haver de Grace, and from there by schooners to New York.

Every enterprising citizen of the valley was fully alive to the fact that the two Smiths were shipping coal and selling it as high as fourteen dollars a ton. Wilkes-Barre business men kept their eyes on what was going on in Shawnee. They watched the Smiths float coal down the river and bring back gold for six years before they mined the splendid veins of coal at the foot of the mountain. There were men with sufficient money to go into the game; there were wealthy families who did not need to exchange eggs for groceries.

CHAPTER II.

HE ONE man up to this time who had achieved marked success or displayed either enterprise or ability, except the two Smiths, was Matthias Hollenback. As he was only a little over sixty years old at this time, and as he did not bite on the tempting bait that the coal business dangled, constantly within reach, one is forced to conclude that he had all the astuteness that his contemporaries credited him with. He added acre to acre and held on to them. A venture that Mr. Hollenback would not go into other men were slow to invest in. His son, George M., decided to become a coal baron. In 1813 Lord Butler, Joseph Wright and Crandel Wilcox joined him in mining and shipping coal down the Susquehanna River.

There were three men in Wilkes-Barre who conceived a plan that must have dazzled the town and set every business bee buzzing. Charles Miner, the historian, Jacob Cist and J. W. Robinson purposed to invade the Lehigh region. Twelve years earlier, Cist, with two other men, had opened a mine on the Mauch Chunk mountain and failed, as we have said. This new combination saw a way to make the business a success. Charles Miner was a literary man. They hung their hopes upon his talent, and

the fact that war with England had cut off sea coal. The trade down the Susquehanna was overdone, while Philadelphia was almost a virgin market, rich in possibilities. They could take their coal down the Lehigh to the Delaware, and as navigation on this river was established, they could easily reach the city.

Fulton had pitched the nation up to a state of mind in which they believed the golden age had arrived. Coal for steamboats was becoming a factor in the plans of these coal operators. With the aid of Miner's pen they would win the world to burn coal.

These three men were remarkable in everything that was excellent. Mr. Miner has never had a peer in this part of the State in those intellectual activities and elevating forces that have molded this section and given it form and character. Jacob Cist is recognized as a scholar, a scientist and as one of the most useful of the many great men, who stand out in our history.

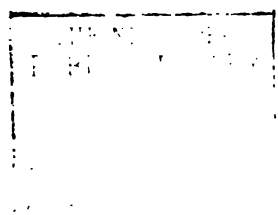
The men who were shipping coal down the river were all men of energy. Only such men could and would dare to attempt and be able to pioneer the development of the natural resources of one of the richest mineral deposits in the world. This great mineral wealth that is behind the marvelous industrial achievements of this

nation fortunately was put in the keeping of men worthy of the trust. They had to fight valiantly to make it serve its mission; they have made its wealth available.

Charles Miner had written several important articles on the subject of coal. He advocated connecting the valley with the Lehigh by a railroad, and the Delaware and the Susquehanna by a waterway, since accomplished. He wrote about railroads when the people had not heard of one.

When part of the rafts of coal sent to Philadelphia by Miner and Cist reached that city, it is on record that the proprietors had prepared for a reception. Probably the Governor and his staff, or the Mayor and the City Guards or a brass band. The advent of the Yankees and their coal rock, that would not burn, was well advertised. The two long-headed and nervy missionaries and educators could stay in the game with Barnum in advertising. They were tendered a reception, the kind that any one can have if he is clever and has coin of the realm to make things pleasant. As Mr. Miner was a literary man and his partner a scholar, they naturally had no large amount of money. What they had they spent to enlighten the world.

The Quaker turns his left cheek when he is slapped on the right, and if you take his long-tailed coat he hands



THE UNDERGROUND DESERT.

you his broad-brim hat, yet he keeps church and state separate, and the man that reaches after his dollar will fancy he has struck a Yankee in disguise. The Germans are not rainbow-chasers, consequently there must be a big breeze started to make a ripple on the placid German and the Quaker. Our friends placed hand-bills, great and small, from the suburbs to the City Hall. They carted their coal through the principal streets; yet, with plenty of coal, they had a cold reception. They did not weep over the city as one of old over Jerusalem. They visited all the foundries and manufacturies; they did not receive a great amount of encouragement. They forced the situation by bribing workmen to test the coal during the noon hour. They burned it in grates used to burn soft coal, and gave it away to blacksmiths. These two men were of that class that could successfully demand an audience with the officials of the city. They exhibited to the people the most wonderful sight they had ever beheld—the flame of anthracite. They found a man who gazed upon the vision with astonishment and delight. Erskin Hazard watched it burn and clearly comprehended the power that was locked up in the despised coal. This man realized that fortune had knocked at his door. He gave his life and fortune to making anthracite a blessing to mankind. His name to the industrial world is a synonym of intelligence and energy. A flame was set burning by Miner and Cist in the Quaker City on the Delaware that has

never gone out. It steadily spread until it has given us the age of steam and made this the greatest industrial nation in the world.

The coal from Summit Hill found a market until the war with England closed. The foreign coal came in in abundance, and cheaper than anthracite could be mined and shipped. Mr. Miner came back to the valley a poor man and took up his pen, for which we have reason to be thankful.

Jacob Cist remained in the Lehigh region, and was one of a group of magnificent men who developed the coal industry and laid the railroads and dug the canals that stretched over the State.

Up to this time there was only one outlet for the coal of the Wyoming Valley, and that was down the river. The market in that direction was being supplied without bringing any great amount of wealth to the valley. The trade established opened the eyes of those who had land to the possibilities of marketing their mineral wealth. The rafts, arks and Duram boats puttered along, the rafts and arks would turn over or run on the rocks and dump their cargo of coal and the raftsmen in the river.

Scranton and Carbondale were like all the territory in that direction, a wilderness. The seekers after coal found that the bed extended up to Carbondale, consequently a

careful investigation was made as to the topography of the country, and it appeared feasible to ship coal over to the Delaware. In 1812 there came two brothers from Philadelphia, William and Maurice Wentz. What these two men accomplished, especially Maurice, is unparalleled by any man in the coal fields. The Wentz Brothers shipped coal down the Wallenpaupeack Creek from Carbondale, in 1814, to the Lackawaxen, to the Delaware, to Philadelphia. They tried this for eight years. The Lehigh overstocked the market. Then Maurice proposed to build his own transportation facilities to the Hudson, whereupon he raised the capital and built the Hudson and Delaware Canal.

He completed this great task in six years, shipped coal to New York and the people of Manhattan Island laughed at him. He followed the plan adopted by Miner, and induced the steamboat companies to use his coal. They told him they did not want it. He stayed with them until they burned his coal. This sounds like a Massachusetts fairy tale. It is history leaving out the whole story except the results.

Ario Pardee, the father of Hazleton and of great mining and transportation interests in that coal field, appeared on the scene about 1806. Charles Parrish was born twenty years later. Before this future Napoleon of the coal

and transportation industries infused his energy into the development of the coal in the valley, the Markels had built their railroads and canals and created a great coal industry on the other side of our Southern Mountain.

Wideawake citizens of the valley gazed upon our beautiful river and boasted that they had a water way to the sea that was better than a railroad or a canal. Steamboats were carrying traffic up and down the Hudson and the Delaware. The kindest thing that can be done with the endeavor of the people along the Susquehanna to float their commerce on steamboats, is to be brief, for it is the story of the most disastrous undertaking that they engaged in.

When our forefathers went into an enterprise they did not wish to play a small part. When they undertook to build steam boats they built as good as any that floated. They put their hard earned money into the enterprise and in every sense sunk all they invested. Up the river and down the river, and on our river commons boats were built. Steamboats from fifty to over one hundred feet long made one or two trips, and then went to the bottom, blew up or were stranded and left to decay. When the steamboats plowed the Susquehanna the people shouted and rejoiced, for they thought the day of great things for the valley had come. One must pause to consider how

many hard battles were fought here in the past, and how many trials endured. Their splendid and endless struggle that continued all their lives awaken only an occasional thought. As we pause and look back, mindful of their bare handed fight with the unconquered forces of nature and unfavorable conditions, we do not wonder it was not for them to enjoy the rewards and reach the goal for which they toiled.

The people in the east became canal mad. The States went into business. We have a practical illustration of State ownership. Everybody that had a project went to the State authorities for money. The authorities reasoned evidently that if a canal was a good thing they had better take it up. Look up this history, if you are interested, and you will find that they spent millions in building canals, which, later, they were glad to let go at any price.

The country was growing. Anthracite was no longer regarded as unburnable rock. Colonel Shoemaker, who had taken ten wagon loads of coal from Pottsville to Philadelphia, had had his famous experience when the coal had refused to be blown or punched into burning, and then burned when given up in dispair and left alone, and had barely escaped being arrested for swindling the people who bought coal that they could not make burn. The time had passed when the value of anthracite needed

to be demonstrated. The consumption of coal for domestic use began to assume proportions that were creating a demand. There were indications that a railroad would be built from Mauch Chunk to White Haven, then it would be possible to do as Wurtz had done at Carbondale, erect stationary engines and draw cars over a track, and in this way haul their coal up through the notch below Wilkes-Barre and send it to the market that the middle and southern coal field operations had monopolized by the facilities for transportation that had been pushed forward by the giants of those coal fields. Then it was apparent that a canal could and would be built up the river, following it and keeping on the same pitch. The great coal deposits of the valley would at last have a highway and an outlet to the great markets. Visions of wealth began to fill the minds of the people and men were anxious to gather the promised golden harvest. Every man who had property adjoining the route of the proposed canal and an exposed vein proposed to mine it.

CHAPTER III.

HERE ARE many things that the casual observer would like to understand. There are many more things that the geologist has wished to have explained. As he can not obtain definite information he must let some of his conclusions stand without verification. He feels justified in concluding that the entire east was covered by a vast coal deposit, and that it was scraped off and carried, no one can tell where. There is no coal on the top of the mountains. We see the conglomerate exposed striped of all the coal and the formations that rest on the coal. We find the anthracite down in the bottom of the valleys, or synclynals, as the depressions are called. In the Wyoming Valley it is found that there is often two or three hundred feet of rock above the coal. In the lower coal fields there is every indication that lateral pressure has changed the position of the coal since the surface was scraped off. The coal in many places stands vertical or lies at every conceivable angle. It is mostly mined by working up the vein and letting the coal fall to the foot, where the tunnel is cut. The men go up and down in a separate man-way. The water runs out and ventilation is not a serious problem. In the Wyoming Valley and other places, a shaft is sunk and the

coal is drawn up. Ventilation is secured by a second shaft for an airway over which two fans are placed. Two are needed, as one may get out of working order, and before it could be repaired the miners would be suffocated with foul air. The mines are ventilated on the principle that when bad air is removed fresh air from the main shaft rushes in and fills the vacuum. Wherever a gangway is run there is an airway cut parallel and connected. In this way the air is made to circulate, the bad air escapes and the good air is carried to every part of the mine. The water is pumped out by placing at the lowest elevation a force pump that forces the water to the bottom of the shaft where it is pumped to the surface.

The underground world is interesting. You can travel from Nanticoke to Carbondale without coming to the surface, and wander miles in every direction. You can find fossilized shells, fish, ferns, nuts and the carbonized remains of an ancient world on which the sun once shone. When you remember that there is a thousand feet of rock between you and the surface it staggers the imagination to grasp the time required and the process nature employed to erect the roof over your head.

To go down a deep shaft is something like being dropped a thousand feet, for the carriage descends nearly as fast as you would go if you fell the distance. You feel sta-

tionary and that the earth is going up. In many of the mines electricity is used. The electric motor and the electric lights take the place of the mine mule and the miner's lamp. It is best to stay out of the mines unless you are obliged to go there. One great danger is from falling rocks from the roof. Sometimes a mine gets on fire and burns for years. A mine at Ashley is a notable case. The heat is so intense that the rocks are consumed. Sometimes quick-sand and gravel will break in and fill a large space. The surface will cave in very often, carrying houses down out of sight. Then it has happened that the miner would break into an abandoned mine filled with water. Sometimes great areas of roof would fall, completely shutting the miners in. The catastrophe at the Gaylord, several years ago, and the one at Pittston are notable accidents of this character. Sometimes the breaker will burn, as at Avondale and West Pittston, where the men were suffocated. Now all mines are required to have a second opening.

At the present time the majority of the miners are Slavish. The first miners were mostly Irish; then the Welsh came, and last, the great army from Hungary, Poland and other countries in that part of the world.

We will go back to our story and take up our history where we left it.

When coal began to be mined labor was needed. This was supplied by the Irish laborer who had built the canal. Most of these soon became proficient miners, as there were enough experienced miners from Wales and England and other countries to instruct the inexperienced and to superintend the work.

The mining of coal is now carried on scientifically. The beginning was crude in the extreme. It was many years before it was known for a certainty that the valleys were underlaid with coal. It was not known until holes were sunk. The value of coal property was not appreciated. Millions were not in the calculation of the owners of large property holdings. You could buy coal land during the middle of the last century for what you now pay for a lot in the suburbs. You could buy hundreds of acres for a few dollars per acre. In many cases large tracts were traded for almost anything serviceable. Often men refused to exchange an article worth a few dollars for many acres of land, the coal under which at the present time is worth and brings the possessor many thousands of dollars.

It soon became apparent that to mine coal profitably large amounts of capital must be employed and large companies formed. Nearly all the early individual operators failed. The large companies were obliged to invest very large sums. It required millions to provide trans-

portation. We were not manufacturing what we used to any great extent. The iron business in this country was unimportant, consequently the demand for anthracite was insignificant compared to what it is at the present time. The operators had a hard struggle. This fact appears to be kept out of sight when comments are made upon large corporations. They created conditions that made our mineral wealth available. The idiot and knave have cried, "Down with corporation," ignoring the fact that the prosperity of the individual, as well as the nation, is due to their combined money, brains and enterprise.

It is a startling fact that the State spent nearly or quite one hundred million dollars in the first part of the nineteenth century building railroads, most of them useless branches; most of this money was appropriated by politicians.

During the time that intervened between the burning of anthracite, by Obediah Gore in his blacksmith shop in 1769, to the coming up of the first canal boat in the canal, completed to Nanticoke in 1830, this nation had become a republic and had successfully passed through the construction period of its national existence. It was going on its triumphant way.

The advent of the canal was considered a great event. In 1834 it was completed to the Lackawanna. It was

twenty-two years before it was connected to the New York Canal, and two years later the State sold it, as the canal had become too slow for the age, and steam was putting the canals out of commission. Jacob Cist was one of the most important factors in securing the legislation necessary to secure the building of the canal by the State. These twenty-four years, when the canal was carrying our coal to market, were very important and eventful ones in the material development of the valley, as well as of the nation.

Before the canal had come into the valley railroads had begun to creep over the God-forsaken hills and hollows in the vast coal fields beyond our southern mountain, and were crawling over the ridges and up the Lehigh towards White Haven, there to descend into the valley, with stationary engines to draw the cars up and down. In 1841 the Lehigh and Susquehanna railroad was extended to Wilkes-Barre. This company's road carried our coal to the headwaters of slack-water navigation.

Just now our story is concerned with the mining of the coal in the valley, of the men who carried on the enterprise, and the men who mined the coal. My attempt will not be much more than a syllabus of the history of what transpired.

For many years the river was the great highway of commerce. Lumber, grain and produce went down, as well as up the river to market. The Duram boats of Matthias Hollenback had carried millions of dollars worth of merchandise, both solid and liquid, to the headwaters of navigation. Labor had found an outlet, and a large part of the youthful energy was employed poling Duram boats or guiding arks and rafts down the river. When the canal was extended through the valley there came the first migration of foreign labor, that has grown in volume and variety steadily until this valley has become one of the most cosmopolitan portions of the country, if not of the world.

The jovial laugh and rich brogue of the Irishman became familiar sounds, and the Irishman's shanty appeared as a common feature of the landscape. When the canal was finished he was on hand to mine our coal. He was not a miner, but he soon became one.

The advent of the Irishman was of tremendous importance politically. Not important at that time, he soon became the autocrat of a political condition he created, such as we had not even imagined.

That awful monster of the twentieth century, the coal operator who controls large interests and employs foreign labor, had his birth at that time. Previously a few

farm hands, when they had nothing else to do, would dig coal. Now the farmer left his farm, and with his team, hauled coal boats. Life on the canal lured many old settlers to go boating.

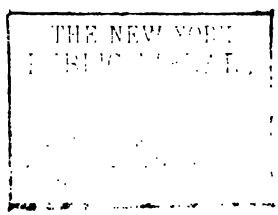
At the present time all except about five per cent. of the coal is mined by the large companies.

The coming of the canal through the Wyoming Valley was an important event and made it possible for many land-owners to open up tunnels in the veins of coal exposed in the ravines. We see that most of these openings were along the line of the canal from Pittston to Wilkes-Barre. The outfit was two or three men in the beginning, picks, shovels, a team and wagon, sometimes only a wheelbarrow. The coal would be dug out and dumped in a canal boat.

There are men working in the mines to-day who remember the crude beginning and have lived through all the history of coal mining since the canal and railroads came to carry the coal to market. No one can fully understand the evolution and see the difference between the past and the present in the three coal fields unless he can go back in memory to the time when the foreign population in what is now the anthracite coal fields were few and scattered. None of the towns except the few old towns were located. The mining population lived, mostly in shanties constructed

without skill from any material at hand. The middle and southern coal fields were a wilderness uninhabited, barren and apparently worthless. Mauch Chunk and Pottsville were the only towns of any account. Hazleton was not marked down on the map, nor the many large prosperous towns in that section. No one had ever seen or probably thought of a coal breaker. The Blue Ridge, between the northern and middle coal fields, appeared to be an unsurmountable barrier between them. To cross this mountain with a railroad was one of the things not to be expected. When the planes came down the gorge at Ashley, it was considered a great achievement, and the best that could be accomplished toward scaling the mountain with our coal.

The long-headed man with great ability and energy always comes to the front to extract victory from defeat, and to make other men available. Erkson Hazard had comprehended the situation and had blazed a trail. Then came Ario Pardee, George B. Markle, later his son John Markle, Eckley B. Cox, and others, who made the desolate hills and barren valleys what they are to-day. In the Wyoming Valley Charles Parrish created railroads and called great mining companies into existence, as if he were a magician. Maurice Wentz opened up the northern end of the coal fields and shipped his coal by transportation facilities of his own creation to New York City.


THE NEW YORK

CHAPTER IV.

FOR THE purpose of gaining a clear understanding of what we are considering, we will go all around the famous Valley of Wyoming. We will begin at the lower end, at West Nanticoke, visit all the early openings, and see what we can learn that is interesting.

This part of the valley is very picturesque. Here the river has cut through the mountain. On the east side is Nanticoke proper, and facing us is a great ledge named, "Eagle's Nest." Behind us is a higher ledge called "Tillsbury Knob." The view from this elevation is hardly excelled by the one from Campbell's Ledge. Here is Nanticoke dam, built by the canal company, as the canal crosses over to the east side at this point. This dam has a chute to allow rafts to pass down the river. Thousands of tons of coal lie on the bottom of the river at this chute, as the raftsman would often fail to conduct his float so that it would pass safely through. Very many rafts and arks have ended their career here, and it was no uncommon thing for boatmen to be drowned. The drop in the level of the river is considerable, and before the dam was built the drop was called the Nanticoke Falls.

departed, and we fail to see the graceful outlines of the long eared animal outlined against the summer sky upon the imposing brow of the culm piles. The culm at Grand Tunnel is no more. A. D. W. Smith extracted the marketable coal.

In sight of the mine we have left we see above us the Chauncey mine. This is a tunnel that was driven by Chauncey A. Reynolds. Afterwards it was leased to Charles Hutchison, and later was operated by Albrighton, Roberts & Co. and T. P. MacFarland, and is now operated by George F. Lee Company, and is still one of the few individual mines.

Now we come to the most famous mine in the country, the Avondale. This shaft was sunk in 1866 by John C. Phelps of Wilkes-Barre, for the D., L. & W. In 1869 he transferred all his holdings to the Delaware, Lackawanna and Western Railroad, who continued the work. At this mines occurred the great Avondale disaster, when one hundred and ten men lost their lives.

The next mine is the Jersey. This is one of the old mines of Plymouth, located in the mountain. Coal was sent from this mine and shipped down the river in arks. It afterwards carried its coal by lateral road and a plane,

which was put in by Robert Love, who afterwards transferred his interest to the D., L. and W. R. R.. It is now abandoned.

The next colliery is the Washington, and was developed by John B. Smith. It is the same property from which his father shipped coal in 1808. It finally became the property of the Lehigh & Wilkes-Barre Coal Company. It is still being operated.

Now we have the Nottingham colliery. This shaft was sunk in 1863 by the Nottingham Coal Company, and soon after became the property of the Lehigh and Wilkes-Barre, and is still being operated.

The Parrish Coal Company is located in the old Wadham's property. It is one of the largest mines in Plymouth. They also work the Buttonwood colliery on the other side of the river. The officers of the company are Henry H. Ashley, president; Charles P. Hunt, treasurer, and George P. Lindsey, secretary.

The Gaylord mines was operated by Henderson Gaylord, leased by H. S. Mercer, of Towanda, and L. Landon, of Elmira, N. Y., who operated it until 1870, when it went into the hands of the Kingston Coal Company, who now work it.

This property, of about three hundred acres, was one of the finest coal properties in the valley. It was owned by

Henderson Gaylord, who sold one-fourth to the Frishmouth brothers, the famous tobacco men, one-fourth to James S. Mason, also of Philadelphia, and one-fourth interest to W. H. Cool, Mr. Gaylord retaining one-fourth. These men are still the owners of the property and are millionaires.

All the collieries below the Parrish mined the Red Ash. The only other veins that extends farther down are the Cooper and Bennett, Baltimore or the Ross. The Gaylord worked, besides these, the Orchard, Lance, Cooper and Bennett.

As you go down the valley the veins are wiped off. As the other veins run out the Red Ash grows thicker.

We neglected to notice the Lance colliery, above the Gaylord. It was sunk in 1870, by W. L. Lance and John J. Shonk. They sold it to the Lehigh and Wilkes-Barre Coal Company,

We are not tempted to linger long in Plymouth, now we have seen the mines, which is the only thing of importance in the place. The splendid old homes of the old families are nearly all grimy with coal dirt and the residences of representatives of the latter importation of foreign labor.

Before we forget it we will mention that the Baltimore vein, that crops out back of Wilkes-Barre, is called the

Pittston vein at Pittston. It is above the Ross and the Red Ash. On the west side it is split in two, and is called the Bennett and the Cooper vein. On the east side there are the Hillman and Abbot veins. They do not extend to the west side. On the west side we have the Orchard and the Lance veins. The veins are named mostly after the men who mined them. The Orchard vein, so named because it cropped out in an orchard. The Baltimore, after the Baltimore Coal Company, who mined it. This is the great Mammouth vein. All the veins crop out and were mined before the canal was built. They were mined without pumps, powder, fans or machinery, and never went in more than three hundred feet at the farthest.

We have come to the lower end of Poke Hollow, appropriately called Bull Run Crossing. As you come up over the hill on to Ross Hill you will observe many fields that will cause you to wonder why such a delightful locality is not built upon. The reason, an official of one of the mines informed me, was because the veins of coal were mined out and were near the surface and the company would not sell the land for building purposes. We find many fine localities in the valley ruined in the same way. As you look back at the side of the mountain you see great holes, funnel-shapeed, of all sizes, disfiguring the fields. To quiet the fears of those who are not informed and fancy we are in danger of caving in down in the valley, we will state

that where the coal lies under a great thickness of rock, when the roof crushes down the broken rock occupies so much more space than the solid rock that the opening is soon filled in solid. The coal pillars are often taken out so that the opening will be closed and water and gas can not fill in the abandoned workings. The great cave-ins that have made trouble were caused by quick-sand or gravel breaking through into the chambers and making a great cavity that let the surface down. The awful desolation we see in many parts of the coal fields over the mountain where the coal is mined out, we will not see here for various reasons, even if considerable surface is sacrificed.

We will return to Bull Run Crossing, at the upper end of Plymouth, and go up to the hollow Samuel Turner sank a shaft in 1860. William Patten sunk what was known as the Patten shaft in early days. It is now known as No. 5, and belongs to the Delaware and Hudson. This shaft works the Cooper, Bennett, Ross and Red Ash veins. Before it was transferred it was worked by John J. Shonk, Langdon and others. The next mine is the old Boston, which was owned by Paul Thurber, W. H. Gatterzer, Comador Stockton and Charles Bennett in 1855. This was a famous mine. It fell in the hands of the D., L. & W. in 1860. That became the property of the D. & H. in 1872, who operate it. It is on a very fine field of coal, one of the finest in the valley. The D. and H., by leases, acquired

a large amount of coal land from Samuel Hoyt, of Kingston, and Abram Nesbitt, of the same place, and the Reynolds family, on which they have the shafts No. 1, 2, 3 and 4, all of which are in operation. This brings us to Blindtown, or as it is now called, Larksville.

We will now go over to Ross Hill, where we have a splendid view of the valley. We say good bye to that part of the valley that has mined coal from the early years of the nineteenth century. It will be apparent before we get all the way around the valley to Nanticoke that this section, for nearly one hundred years, has been the great center of the coal industry of this coal field. Now more attention is given to the great body of coal in the center and the lower end of the valley on the east side.

One of the most important coal works in the valley at the present time, and the one which mined more in one year than any mine has to it credit, one million tons in 1905. This is the Woodward. It is not an old shaft. It goes down to the depth of over one thousand feet and pierces all the veins. The land the company holds includes all of the Kingston flats south of the road to Wilkes-Barre, and also the Woodward and Nesbitt farms.

For the first time we are on the level plain of the Wyoming Valley, at the base of the hill back of Kingston, and are inspecting the Kingston Coal Company property.

Their property extends south and west over the hills. This shaft and the East Boston was opened in 1863 by David Morgan, from Pittston. He afterwards sold his interest to what is now the Kingston Coal Company, composed of Waterman and Beaver and Daniel Edwards, who was a man of great practical intelligence and energy. The property was developed by sinking one shaft, building one new breaker and enlarging the others. This plant produces about one million tons per year. The East Boston part Morgan sold to the Consumers Coal Cmpany. They in turn leased to Charles Hutchison, then to W. G. Payne and Company, who are now operating it.

Near it is the Black Diamond. The shaft was sunk by Charles Hutchison in 1871. He operated it several years and it was sold to John C. Haddock, who is still operating it. Mr. Haddock owns and operates the Dodson colliery at Plymouth, that we intentionally passed by. It was sunk in 1870 by Dodson & Co., who sold it to the Wilkes-Barre Coal & Iron Company, after surrendered by them, when Haddock & Co made lease and is now operating it.

The Mill Hollow Creek runs between these two last breakers at Luzerne. Up this creek, at the beginning of Mill Hollow, is the Raub colliery, that was opened by Thomas Waddell, who afterwards sold to the Raub Coal Company. It is still operated under that name.

The D., L. & W. have a large modern colliery above Kingston, towards the river, the Pettebone, that was opened some twelve or fifteen years ago.

At Forty Fort, where the valley extends to the base of the mountain, the Harry E. colliery is located. It was opened and operated by Ellenwold Coal Co., then went into possssion of J. H. Swoyer, then to S. & W., and afterwards to the Temple Iron Company, who are operating it.

Next is the Forty Fort on the Shoemaker property. Next the Maltby.

The Hunt colliery was opened and operated a few years by Samuel Stetler, then E. L. Fuller leased it, who sold his interest to the D., L and W. R. R., who worked it several years when, by an unfortunate driving to the river they ran in a bed of quick-sand, the mine was flooded; they have never succeeded in relieving it of the water.

You will observe we are now back of Wyoming, where we find a colliery opened by William Griffith and T. P. MacFarland, who organized the Wyoming Coal and Iron Company. After operating it several years they sold their holdings to the Lehigh Valley Coal Company.

The two shafts above were the Mount Lookout collieries sunk by Simpson and Watkins in 1880, who operated them until 1896, when they transferred their interest to the Temple Iron Company.

We are now at West Pittston. The West Pittston shaft was sunk in 1870, by the Lehigh Valley Coal Company.

The Clear Spring Coal Company colliery was opened by J. L. Cake.

A colliery at the foot of the mountain was opened by a Mr. Stevens, The Stevens Coal Co. These are all the works on the West Side except little openings for local trade.

CHAPTER V.

EFORE we leave this side of the river we will go back to Avondale breaker, the scene of a disaster quite impossible to describe. The breaker was located upon the side of the hill, on a small plateau, from which you could see up and down the valley and across the wide flats below you. Behind, the hill, rocky and covered with trees, rose abruptly. The breaker began burning in the morning, Monday, September 6, 1869. The fire started at the bottom of the shaft and, as there was no other opening, the one hundred and eight men inside were doomed. The fire companies had fought the fire all day without avail. The scene in the evening was wierd and horrible. As you came up the drive from the railroad on to the elevated stage, you found yourself in a crowd of men, women and children. The men were pressing to get to the opening that was covered with burning and smoking timbers and twisted iron. The burning ruins made an appalling sight, the smoke and the steam twisted and curled up in the blackness above, while the remains of the breaker glowed and blazed, throwing its glaring light upon the blanched faces of the spectators. One fancied the scene was a bad dream of an ancient pyre, where bodies of the dead were being burned and the living consumed on the same funeral pyre. The table land, the elevation and

the great mass of writhing smoke suggested hades. The men were dragging burned timber from the opening and rushing in to clear away the heated iron. The women, with shawls over their heads, or bare headed, gathered in groups or stood apart in silent despair. As they looked at the place where the burning debris hid the mouth of the hole where hundreds of feet beneath them the fathers, sons or husbands were confined, no one could dare to hope that one of them would come out alive. As you looked at the skeleton of the breaker, piled in confusion and being consumed as it hissed and steamed as the firemen turned streams of water on it, and you turned and looked at the hundreds of stricken women you would begin to feel what it all meant to them. The hard unrelieved reality, with all its blunt cruel misery and killing suspense. There was nothing lacking that could add to the effect. Even the dark woods loomed like a threatening spectator in the darkness for an effective background.

We will give our attention to the tragedy just beginning at the forbidding and fatal hole. The men uncovered the opening, put up a crude frame with a pully and a rope. They hallooed down the shaft, there was no response; then they tied a peach crate to the rope, put a little dog in and tied a lighted lantern to it and let it down. When they pulled the crate up the dog was alive, the light was extinguished. They fastened a bucket as large as a barrel

cut in half. A man crouched in it and was let down. The crowd was silent—so silent that it made you shudder. The bucket had not gone down far before it came in contact with some timbers that had lodged. In a few minutes there was a crash, the man had loosened the timbers and they had gone to the bottom. They brought this man up when he pulled a small rope that went down with him to signal with. Then two men got into the bucket. They were let all the way down; the men at the top waited in vain for a signal. They drew the bucket up and when it came to the surface we could see the lower limbs of one man hanging over the bucket. They pulled the bucket from over the hole and took out a dead man. We knew that the man was dead who was left behind. Then the great crowd of men realized that it was foolish to hope. All about you could hear people asking, "Have the men built a barrier to keep out the bad air?" Men crowded about the opening eager to get in the bucket to go down that awful hole. As quick as the bucket was ready to be lowered men were in it and others waiting an opportunity. Let us drop the curtain. The dead were not brought up until Wednesday. Over one hundred and fifty thousand dollars were contributed by the public for the families of the victims.

Pittston was so called after the English statesman, William Pitt. For many years it was a center for the Irish miners. It is now a city.

The typical Irish miner of the sixties is quite extinct. The Irish miner has ceased to be a distinct type. He is now an American citizen, and to a great extent has ceased to be a coal miner. Hyde Park and Edwardsdale for many years was mostly inhabited by Welsh miners. This nationality have ceased to be the factor in coal mining it once was. The Italian rarely mines coal and only a few Englishmen were ever found among the mining population. Here and there can be found a Scotchman.

At this end of the valley coal was first mined, other than by tunneling. Here the Pennsylvania Coal Company began its existence, and from this place they built the gravity across the mountains to Honesdale, that furnished an outlet for their coal.

Pittston, like Nanticoke, is a mining center. Nanticoke is a large place wholly given up to the mining interest. Across from Pittston is West Pittston, where there is scarcely a hint that it is in the center of the coal fields.

Pittston started at Port Griffith below Pittston. William Griffith came as the representative of the Pennsylvania Coal Company, and was its first president. He bought land for the company that included nearly all the farms through Pittston and Plains townships. These properties formed the nucleus of the company he represented. The land was purchased for fifty to one hundred and fifty dollars per

acre. The first operations of this to-be one of the wealthiest and prosperous companies, was at Port Griffith, named after William Griffith. The works were extended into Pittston and became a large shipper of coal over their road built from Port Griffith. This was a gravity road which, with twenty planes and a double track, connected with the Delaware and Hudson Canal. It was completed in 1851, and was the first railroad connection going north and out of the valley. The D., L. & W. was opened in 1856.

The early operators in this section were all canal shippers. There was Able Bennett and Johnson. Joseph and Benjamin Bowkley, Abram and Benjamin Price, William and Thomas Leyshon, James MacFarland sank what was known as the Tompkins and MacFarland shaft. This was the second shaft sunk, the Johnson was the first. J. L. and L. Butler were the first coal operators at Pittston. This was 1842. This mine was opened by James MacFarland who was superintendent. Theodore Strong was bookkeeper. He is still living. All the men whose names are given are dead except Mr. Strong, who is now 87 years old.

David Morgan was an operator at upper Pittston in a small way.

These operators mined and shipped coal in the summer and in the winter drove gangways. Any individual company

that was able to ship thirty thousand tons in a season was a large shipper. There were no big operators.

There was no pay days until after the war. All individual operators kept a store that supplied the miners with all they wanted. If a miner must have money he went to the office and asked for it. He must need it or he would not get it. There was a settlement for the year when navigation closed.

Most men are not aware when the coquetish goddess of fortune comes and waits to be wooed. From Pittston to the lower end of the valley during the fifties and afterwards fortune couquetted with our fathers outrageously. She sat in their laps, patted them on the cheeks and held out fablous fortunes to these men. These men were blind and lacked, as it appears to us, discernment. As the individual stories I have on hand of the mistakes of our fathers would be likely to give offense to the descendants, I will only refer in a general way to this subject.

The territory we will now visit was divided up in farms, owned by old settlers who had inherited their possession from their fathers. These families were all of New England stock that was found all over the valley. In this section nearly all of them went to mining coal. Most of them did not possess any great amount of ready money, consequently they must have ready money as well as a market that

would pay for the coal. To make a general statement that will cover the situation I will say that if these men had not mined coal and kept their property they would have, in a few years, received large fortunes for their holdings, or enjoyed receiving large royalties that would still be coming in every year to their heirs. With few exceptions, that I have discovered, those who went to mining coal lost their farms and left little to their descendents.

Coal was sold as a rule for a dollar per ton at the mines. That was good enough only they would be obliged to take it out in trade most of the time. The coal sent down the canal did not find a ready market. Notes were very often given in payment that the holder would have shaved. Everything except money would be offered in payment. When the operator needed money to pay toll and get his coal to the market, he often borrowed among his neighbors. When he would get behind he would either dispose of part of his property, take a partner, borrow money or fail. First one man and then another would try his hand, and then unload to some man who fancied he could succeed. The individual experience is a long story and includes nearly every name of importance in the valley. As you follow my story and note the transfers you can read between the lines all you care to know.

When the Civil War came it sent the coal from one to two dollars per ton, and made a ready market. The man

who chanced to be in possession of a coal lease or owned any of the many coal openings, became prosperous. Some of the coal was previously leased by men without anything. They were made rich. Some men owned valuable land that they had taken in payment for money or goods advanced. Some held property because they had failed to get rid of it. Everybody became wealthy except the men who had owned the land and had gone to mining. Matthias Hollenback secured a large tract that extended from the mountain to the river. He did not go mining, he let the land wait. Reuben Flick had a store in Wilkes-Barre. The Parsons had a large tract that was poor farming land. They traded and finally gave Mr. Flick a half lease for the coal. Mr. Lawrence Myers kept a livery stable in Wilkes-Barre. His stock consisted of two horses. He was one of the very few who hung to all land he could get. The getting was easy. The father of a Kingston man was offered forty acres surface and coal for a colt and would not make the deal. A property that Lawrence Myers took in court to prove was sold to him under false pretense, and the court compelled him to keep, is and has been as good as a gold mine for forty years. This is certain that our millionaires, with only a few exceptions, are not coal operators, or their fathers before them. Most of the men who reap the great harvest of wealth came by it because they chanced to be owners.

The coal business was and would have continued a failure if at the time of the war the great corporations had not begun in earnest to either lease or buy the coal and mine it. They had capital and all that was needed, machinery was created and introduced, and large breakers built as soon as George B. Markle had made his model. There were broad rivers and high mountains for the operator to cross before he could receive interest for his money or be secure. When the war closed prices dropped as well as the demand. The production exceeded the consumption, then competition began, the miners demanded that they receive war-time wages, and as it could not be paid they struck. The large corporations have made the wealth the people enjoy available as well as giving labor and employment and paying for it.

The claim is made that the wages of the miner and the price of coal do not advance together. During the Civil War the miner received his share of the prosperity.

We will now follow the canal to Wilkes-Barre and then go up the back road.

Port Blanchard was named after John Blanchard, who was one of the largest shippers and owned a large property. He sold to the Pennsylvania Coal Company. Holland operated the mines for a number of years, as did several other men.

Below was the Cooper property that was sold to the P. C. C.. They have a large breaker.

Samuel Wilcox's property, that is adjoining, was sold to Valany V. Maxwell, of Wilkes-Barre. Thomas and William Leyshon mined and operated it for a number of years. Later John Mitchell operated it until the P. C. C. secured it. They built a big slope.

At Plains, John Searles operated an opening on his property. He sold to one Horton of Philadelphia, who later leased it to John Mitchell, who sold it in war times to the L. V. C. and was one of the few operators that could smile a smile of some hundred thousand dollars dimension. Mr. Swoyer operated this plant at one time. Simpson and Watkins also tried it for awhile. There is an old abandoned breaker that Swoyer built. The coal is now run to the Horton shaft.

Port Bowkley is named after Joseph Bowkley. He mined coal on the Abbott property. Later Swoyer built a breaker that is now abandoned. It is the property of the L. V. C..

Below was the Hillman colliery. There was no early operations there. Baker Hillman operated it many years with a small breaker. Afterwards Robert Pool and others operated it. It is now the property of the L. V.

We are now at Wilkes-Barre, what is known as the Dorrance shaft, formerly belonged to Mr. Hunt. It now belongs to the L. V.

On the back road above Plains, coal was mined for local consumption. That locality was called Pumpkin Hollow. The mining was done by Crandal Wilcox, who also mined coal on his own property. It is owned by the D. and H. They had a breaker there. Below is the Charles Niber tract. It was leased and coal was mined there for twenty years. It was bought by W. P. Ryman, who sold it and realized a large fortune by the transfer.

At Parsons, Calvin Parsons owned a large property. He sold half interest in the coal to R. J. Flick. With Mr. Parsons he leased the coal to the D. and H., who has put down a shaft and built a breaker.

Matthias Hollenback owned a large tract that extended from the mountain to the river that is now leased to the L. V. and D. and H.

CHAPTER VI.

WILKES-BARRE is a city where the business of the mining in this valley is conducted, and the center of transportation. It is here that a large part of the wealth that the coal brings into the valley flows. Here dwell many who receive royalties, having inherited large fortunes that were created out of coal. Our city, the center of the richest valley in the world, is one of the greatest centers of wealth, if not the greatest, in its average in intelligence, of any city of its size in the nation.

Judge Jesse Fell is the one man that has gained world-wide fame in connection with the coal. His laurels still adorn his brow, notwithstanding that it is fairly well established that Jacob Cist burned anthracite in a grate in 1803, and that the great draught problem was solved in Philadelphia a little later. Cist demonstrated that he appreciated the value of our coal and plainly foresaw the value of coal land by leaving to his heirs valuable coal properties.

The most famous coal openings and the only ones that have a place of importance in history, are the Baltimore openings back of Wilkes-Barre. In the beginning of the nineteenth century this was an important mine; it belonged

to and was operated by Col. Lord Butler. The creek on which it is located is called Coal Brook. Col. Butler delivered coal to local consumers for three dollars per ton, and coal sold at Baltimore for eight dollars per ton. Some anthracite was sold at Philadelphia for one dollar per bushel. This vein is one of the largest and finest in the coal measures. The teams would drive into the openings to be loaded. The Baltimore Company purchased, named and mined it.

George M. Hollenback tried to establish a coal trade by shipping coal in wagons over the mountains, and James Lee, who had a large estate at Nanticoke and Hanover, where the coal cropped out, mined and sent coal by wagons to Germantown in 1813. Colonel Lee shipped many hundred tons to Baltimore later. When the canal came, as we have seen, the east side began to be mined extensively. Later on the failure of J. Cook and Co., in 1873, forced the New Jersey Central to go into the hands of a receiver, and the canal to be abandoned.

The great and valued tract south and west of our city became the property of the largest corporations. For the first properties purchased they paid from twenty to thirty dollars per acre. Some who did not sell until coal was mined in their vicinity, received one thousand dollars per acre. Most of the farms brought three hundred dollars per acre.

The name of the Pennsylvania Coal Company has appeared on these pages, it should not be confounded with the Pennsylvania Railroad.

This northern coal field is the largest of the three fields. For a long time, comparatively, it was unavailable, because it was so walled in that its wealth could not be transported. The middle and southern coal fields had become important before we found an outlet that made coal shipping profitable. The Lehigh region was so fortunate as to have a few great men to develop the coal and transport it. They had Ario Pardee, Eckley B. Coxe, and George B. Markle, who designed the first breaker. His hand-carved model was nearly the same as the breaker of to-day. He is the father of the breaker, and many of the improved methods and machinery used in the mining industry. The Jeddo Tunnel, one of the triumphs of engineering skill, was projected by John Markle.

The great bed of coal that lies below Wilkes-Barre is where the bulk of the coal will be mined in the near future, for this large and valuable section has given up only a fraction of its wealth.

The Blackman was one of the earliest and most important of the early openings. The Baltimore vein was exposed in the ravine. When the Lehigh and Susquehanna Company had put the plane in at Ashley, they built a branch

to this mine from which they produced most of the coal they shipped. It was then called the Franklin mine, and is now operated by the Lehigh Valley Company.

At the Red Mill, at Ashley, at the foot of the falls on the creek, Lewis Landmesser, who was one of the early operators, had a mine. He formed a stock company, this was the other source from which the Lehigh and Susquehanna Company secured coal for shipment over the plane. All the property in this section was secured by the L. and S. Co., and is now the property of the Lehigh and Wilkes-Barre Coal and Iron Co.

The old Preston mines was near, and was where the Lehigh and Wilkes-Barre Company put up the first breaker, which was the Sugarnoheele. Later there was the Maffet and No. 10 breakers. W. R. Maffet built a breaker a half mile back of Sugar Notch. Jacob Roberts, Jr., and Driesbach leased it. Later George MacDonald operated it, also one at Yatesville. Below the Maffet property was an out-cropping of the Checker vein, that was worked.

Samuel Holland developed the coal at Warrior Run in the later forties. He sent his coal to the Susquehanna River and loaded it on boats at the Hanover basin. The same property was leased to A. J. Davis. It became the property of the Lehigh Valley Company. Below, Charles

and for other purposes therein mentioned. Passed the 4th day of April, 1799, free and clear of all restrictions as to mine royalties, quit rents or otherwise, excepting and reserving the fifth part of gold and silver for use of the Commonwealth, to be delivered at the pitts' mouth, clear of all charges.

Enrolled in the Rolls office, in Patent Book No. 57, page 131, twenty-eighth day of May, 1805.

James Stark, son of Henry, owned several hundred acres of coal land at the time of his death, enough to make all his descendents rich. Some of it remains in the possession of the family at this time. James Stark was one of the first to mine coal in the valley.

The property of James Stark, sold by his heirs to the Pennsylvania Coal Company, 137 acres for four hundred to four hundred and fifty dollars per acre. The Dill's farm, containing 138 acres, was sold to the Delaware and Hudson Canal Company, 43 acres, for three hundred dollars per acre. All of this property is now worth at least six thousand dollars per acre under lease for the coal alone.

John Stocker, father to Thomas Stocker, purchased eighty-five acres of coal land for which he gave in payment an old shot gun. This property was called the "Johnson Cabin Lot."

Thomas Stocker sold an half interest in forty-five acres for seven thousand dollars many years ago.

Thomas Stocker said, when he first came to Plains Township, he could have bought all of Pittston for six cents an acre. This was in 1816. Pittston at that time was covered with scrub oak.

Every acre of land in the valley has a history quite as interesting as that of the men who at various times possessed it. The dazzling opportunities that were common here one hundred years ago and at a much later date, awakens our cupidity; we almost wish we could go back and embrace the bargains that went begging at that time. Thousands of acres of coal land that now bring the holders thousands of dollars per acre under lease, could then have been secured for a horse or most any useful article, or purchased for a few dollars per acre. We always are deluded by the notion that when we purchase land it is a permanent possession. We can get what we can off of it for a while and then some one else will think it is his and his heirs forever. The land stays, one man after another squats on it and leaves it for the next man who can claim it. We might as well strike out a patch of blue sky for a permanent possession. We take the hint and do not bite too hard. We have seen many take this old joke of possessing the earth very seri-

ously. All of us know and have known very poor men who had many valuable acres of coal land and many rich men who never owned an acre. The latter fact was neither to their credit or discredit.

After forty years or more of almost fruitless effort to develop the coal industry the time came when conditions were favorable. At this period we see the giants of the coal and transporting industries in the different parts of the coal fields performing what appear, as we look back, Herculean tasks. Nearly all of them were men without means. Some of them came to an unbroken wilderness and to conditions that were nearly hopeless. The story of the coal mines and the railroads that carry the coal could be built around the biography of a few men. We will briefly indicate the human frame-work about which our industrial life is reared.

We will begin at the northern end of the anthracite coal beds and travel to the southern end.

The coal field extends several miles north of Carbondale. Here we see at the head of the list of great men, Maurice Wentz and his brother William. Maurice appears to be the man we must give credit for performing miracles.

The Lackawanna coal region is the eastern portion of the coal fields. Carbondale was practically the first, and Scranton the last section of that district to be developed. The

Wyoming district in 1820, the Pittston in 1840, and Scranton in 1855. The enterprise and energy displayed in the latter district surpassed that in any other district. Coal is mined here under a disadvantage, the veins being much deteriorated by bands of slate, bone and other impurities. On the other hand the coal is at a moderate depth and lies at a low angle approaching the horizontal, that enables the miner to put his coal into the mine cars without extra hauling.

There were three Wentzs. William was the pioneer, he conceived the idea of transporting coal to market by an eastern route. While all the section from Carbondale to Pittston was little better than an abode for snakes and wild cats, he explored and investigated, not only the outcroppings of coal, but the mountain passes and streams, to find an outlet to the Lackawanna and Delaware rivers. He purchased land that proved to be valuable. In 1823 Maurice Wentz procured from the Legislature of Pennsylvania an act authorizing the construction of a water-way upon the Lackawanna River. The Delaware & Hudson Canal Company was formed and an act was passed by the Legislatures of New York and Pennsylvania for the construction of a waterway from the Delaware to the Hudson rivers. This act was passed for the purpose of furnishing transportation for the coal of Maurice Wentz. A canal was built to Roundout, on the Hudson, from Hones-

dale, a distance of 108 miles, and the planes from Carbondale to Honesdale, fifteen miles long, over a mountain one thousand feet high.

William Henry was appropriately called the industrial pioneer of Scranton. He began the iron business that has made Scranton one of the most important inland cities of the east. George W. Scranton and his brother came and comprehended the possibilities that the great deposit of mineral offered, went to New York, secured capital from the money kings, created the great foundries located there. To a great extent he created the city that bears his name. Later William L. Connell and John Jermyn have played an important part in the development of that section. Many names might be added.

The name of William R. Griffith stands out in relief in the history of Pittston and vicinity. He was chiefly instrumental in the formation of the Pennsylvania Coal Company. He made large purchases of valuable coal lands. This one company has always paid dividends. A gravity road was built from Pittston to Hawley, a distance of forty miles, in 1850.

The first great name in the mining of coal in the Wyoming Valley is that of Jacob Cist. He understood, better than any other man, in the early days, the geology of this re-

gion. He, with others, formed the Lehigh Mine Company, and probably was the first to burn anthracite in a grate, and was, with Charles Miner, largely instrumental in introducing it to the world as a fuel.

Charles Miner, the historian of the Wyoming Valley, with Cist labored effectually in teaching the people the value and the use of our coal. He wrote extensively and prophetically on the subject. He was one of the early operators.

Charles Parrish has few equals and no peer in the industrial life of this part of the State. He began to be extensively engaged in coal operating and speculating in coal lands in 1856. The public mind at this time was beginning to appreciate the prospective value of anthracite coal. This quiet young man, by constant thought and untiring energy, astonished the public by the magnitude and the success of his operations. The Wyoming Valley was the center of his activities. He organized the Lehigh & Wilkes-Barre Coal Company, of which he was the president for twenty years. He bought and personally inspected all the lands of the large holdings of this company west of the mountains. The combination of the different companies, mines, railroads and canals were the conception of his fertile brain, as well as mainly the work of his hands. As president of the Borough of Wilkes-Barre, he was largely instrumental in securing well paved streets, light, fire appar-

atus and efficient police. He probably did more than any other man in raising and equipping volunteers for service in this section during the rebellion. He built several of the railroads leading out of Wilkes-Barre, and it is conceded that he labored hard in developing the rich coal fields of the Wyoming Valley and getting its products into touch with the markets of the world, and succeeded. He was instrumental in organizing and bringing many large industries to Wilkes-Barre. The complete record of what Charles Parrish performed would be regarded as a creation of the imagination.

Dr. Charles F. Ingham, of Wilkes-Barre, was an experienced engineer. He performed what was then considered an impossible feat of engineering, in solving the problem of crossing over the southern mountain with a railroad.

Most of the coal for the last half of the nineteenth century was mined by the large companies and individual enterprise has not played any prominent part. We have a few large private companies. Daniel Edwards, for many years the head of the Kingston Coal Company, the largest individual operating company in the valley, and one of the largest individual concerns in the State, was to a great extent the chief promoter of the company over which he presided. In many admirable ways he was one of the most unique figures in our history. He began life without any

advantages and came here from Wales without means or an acquaintance with the English language. He was twenty-five years of age when he came.

Among the most prominent of the individual operators are W. G. Payne and John C. Haddock.

We will go to the Middle Coal Field, to the city of Hazleton. This section of our coal fields was developed by Ario Pardee, who formed the Hazleton Coal Company in 1839. Mining had commenced in the Wyoming Valley for some time before coal was known to exist upon these highlands. Coal was first discovered there in 1826, by John Charles, a hunter, while digging for a ground hog. Pardee was engineer and superintendent. In connection with Robert Miner and William Hunt, in 1840, formed the firm of Pardee, Miner & Co., which later merged with the Lehigh Valley company. He was a very unusual man. For many years the firm known as A. Pardee & Co., were the largest individual shippers of anthracite in Pennsylvania. Mr. Pardee was largely interested in iron and lumber operations in other states, and was for fifty years the foremost man in the section in which he labored. He aided Lafayette College and other institutions.

Shortly after the opening of Pardee's collieries at Hazleton, George B. Markle organized a company at Jeddo. He came to the coal fields as a young man without means.

Now, we will begin at the bottom of the coal veins and follow them up. They are designated by names as well as designated by letters of the alphabet, beginning with the bottom vein with the first letters. This is the Middle and Southern Coal Field.

The under vein is called Alpha, very appropriately, or A. It is from two to four feet in thickness.

The next is called the Buck Mountain, or B. It is from 30 to 100 feet above, and ranges from eight to twenty feet in thickness. At Nanticoke it is thirty feet thick. It is usually a double bed divided by fire clay slate.

Camma, or C, above, is small and unimportant, averaging from four to six feet.

The Skidmore, or D, is also known as the Wharton. It varies from six to twelve feet in thickness, and is generally a workable vein of merchantable coal.

The Mammoth, or E vein, is the great vein of the anthracite field, and probably the most magnificent coal bed in the world. Its productive condition is thirty feet in thickness. It varies from twelve to seventy feet. At Wilkes-Barre it is known as the Baltimore vein. It usually exceeds four feet without a streak of bone or slate. For years this vein produced over two-thirds of all the anthracite mined.

The difference in the cost of mining this large white-ash vein and the small red-ash beds is not less than fifty per cent. The Seven Foot vein is a satellite of the Mammoth.

The Holmes, or F, is a small seam about 200 feet above the Mammoth. It is from three to five feet in thickness. This is the upper white-ash vein, and is not important.

The Primrose, or G. is a large productive bed, and is mined with economy and ranges from nine to sixteen feet in thickness. It lies from 300 to 400 feet above the Mammoth.

The Orchard, or H, ranges from four to eight feet in thickness. This is the first purely red-ash vein. The coal is frequently coarse, yet is excellent for domestic purposes.

The Little Orchard, or I, is from two to four feet thick, and is but little worked.

The Diamond or Daddow, J, is one of the largest red-ash veins, and ranges from five to nine feet in thickness. It has many other names in different localities.

The Big Tracy, or K vein. It ranges from eight to twelve feet in thickness, lies about 200 feet above the Diamond. Between them are two or three veins approaching workable size.

The Little Tracy, or L, is a solid bed of excellent coal between three and four feet in thickness. There is usually a strata of soft dirt underlying it. The miner undermines the coal and breaks it down without powder. It has several other names.

The Gate, or K, is the upper reliable seam, and is the most valuable above the Primrose. It ranges from four to sixteen feet in thickness.

The Sandbrock, or N, is the upper workable vein, though seldom worked, and ranges from two to four feet in thickness.

Cross section, in the vicinity of Wilkes-Barre, Pa., prepared by J. Roberts, Jr.:

Sand and Gravel.....		75'
Grey Rock.....		49'
Snake Island Vein.....	9'	
Grey Rock.....		64'
Abbott Vein.....	6'	
Black Rock.....		90'
Kidney Vein.....	8'	
Black and Grey Rock.....		53'
Hillman Vein.....	8'	
Black and Grey Rock.....		156'
Five Foot Vein.....	4'	

Sand Rock.....		107'
Sump Vein.....	5'	
Sand Stone.....		76'
Baltimore Vein.....	20'	
Sand Stone, Slate and Bone.....		275'
Ross Vein.....	3'	
Sand Stone.....		40'
Ross Vein Split.....	4'	
Fine Conglomerate.....		55'
Red Ash Vein.....	13'	
	80'	1040'

The first discovery of coal on the Lehigh was in the Mauch Chunk Mountains, in 1791, by the famous Philip Ginter. His specimens were taken to Philadelphia and resulted in the formation of the Lehigh Coal-mine Company the next year. Six thousand acres of coal land were taken up, which have since formed the coal territory of the Lehigh Coal and Navigation Company and Lehigh Navigation Company. They mined some and did not know what to do with it. In 1798 the Legislature chartered a joint stock company to improve the navigation on the Lehigh, and $30,000 was expended in clearing obstruction and constructing wing dams. In 1803 the coal company built six arks above Mauch Chunk. One hundred tons were loaded

on each ark, two reached Philadelphia. No one wanted the coal, and it was broken up to gravel foot-walks. Nothing was done for seventeen years.

The next effort of any account was that of Miner, Cist and Robinson, in 1813, which we have narrated.

In 1820 navigation on the Lehigh was sufficiently improved to admit the descent of arks, and 365 tons were shipped to Philadelphia, and sold for $8.50 per ton. This was the real beginning of the coal trade on the Lehigh.

In 1832 the Lehigh navigation was further improved. A canal was constructed 148 miles long, from sixty to one hundred feet wide, with locks.

In 1847 the Lehigh Company obtained all the coal it shipped from Summit Hill, where Ginter discovered coal. Here a single vein (the Mammoth) reaches a maximum thickness of seventy feet, equal to the workable thickness of the entire formation of the richest coal field of the Old World. The coal is mined from the uncovered face.

Up to 1864 the canal has taken twenty millions tons of coal to market.

The first railway of any account in this country was constructed from Mauch Chunk to the Summit Hill mines, a distance of nine miles, built in 1827. It was a gravity road. Mules hauled the cars back and rode down. Later stationary engines were used, and in 1831 a locomotive road

was constructed. In 1817 the Coal Mine Company leased their whole property to White and Hazard & Co., for twenty years, for an annual rental of one ear of corn. They formed a stock company—The Lehigh Coal Company —and also organized the Lehigh Navigation Company, afterwards amalgamated as the Lehigh Navigation and Coal Company. This became the Lehigh Coal and Navigation Company.

In 1837 the Lehigh & Susquehanna Railroad was commenced from White Haven to the Wyoming Valley, a distance of twenty miles. The first shipment was in 1864.

The Beaver Meadow and the Hazleton roads were ready for operation in 1840.

The Lehigh was opened in 1855.

Coal was discovered in the Schuylkill region in 1790, according to the tradition of a hunter by the name of Nicholas Allen, at the foot of Broad Mountain. We have this story: Allen built a fire in the evening against a ledge, went to sleep, and in the morning found the ledge a glowing mass of fire. He is said to have thought the mountain on fire. He did not profit by his discovery. This discovery was supposed to have led to practical results. In 1800 William Morris tried the experience of taking coal to market with the usual result. In 1806 coal was shipped on the Schuylkill and was used in the forges.

In 1814 Schuylkill navigation was projected, and by 1825 boats passed from Pottsville to Philadelphia, and this dates the real beginning of the coal trade from this region. In 1840 the Reading Railroad was opened to the coal trade.

The first use of anthracite in a blast furnace was in Pottsville in 1839.

At this place reference will be made to the formation of coal in brief.

Coal is of vegetable origin; it was formed when the earth was young, when the air was warm and moist, and heavily loaded with carbon gases, and when the sky was overcast with dense clouds; in fact when the earth was an immense green-house.

The plants that were to be coal grew in extensive swamps such as are found at the mouths of mighty rivers. The deer-rooted sigillaria, the towering lepidodendron, the gigantic calamite, and a dense tangle of beautiful ferns crowded the swampy soil.

As these plants grew old the water into which they fell prevented decay and peat was formed as it is, on a smaller scale, in the swamps of today.

Meanwhile the river was bringing down mud, adding to its delta, thus enlarging the swamp and increasing the load on the earth's crust.

Finally the crust yields, the swamp sinks, and our beautiful ferns and trees, as well as the accumulated peat of ages, are covered deep with mud.

When the river fills the sink so that a new swamp is formed, new vegetation springs up and a new coal bed is again begun.

The sunken peat is changed by the pressure upon it into lignite, or if the pressure is great enough, into soft coal.

Should mountains be formed including our coal bed, the heat and enormous pressure due to the wrinkling, will drive out the greater part of the gas from the soft coal and compress it into hard coal, or anthracite.

One of the deadliest foes to the miner is foul air. Marsh gas, or "fire-damp," as the miners call it, is always seen in summer bubbling up through the water of our swamps when the bottom is stirred.

It is formed in larger quantities in the extensive swamps of the carboniferous period and was imprisoned with the coal, by the mud. Now it permeates the porous coal, and as the miner drives his gangway, with pick and drill, or blasts down his coal, it oozes out into the air, not only

making it impure, but making it a very violent explosive. When there is an explosion of fire-damp, a whirlwind of flaming air rushes through the mine and tears up everything in its path.

After the explosion comes the deadly, suffocating "Choke-damp"—carbon dioxide—formed by the burning of the "fire-damp."

The aggregate thickness of the deepest point of our coal is ninety feet, divided into ten separate seams. The greatest depth is in Hanover Township, where the red-ash is twenty-two hundred feet below the surface.

The best way to obtain a correct impression of how coal is mined, as well as how an exposed vein of coal looks, is to visit a mine. A thinking man can not look upon the face of the veins in a mine without being deeply impressed. The great solid wall of coal is one of the greatest wonders of nature.

All that the scientist has been able to read in the great volume, the leaves of which you pass through as you descend a shaft, is but a glimpse of the great mystery written on the hidden pages between peat and granite.

It will repay you to visit the rooms of the Historical and Geological society in Wilkes-Barre. Be sure to have the secretary go with you to the basement, where you will

find large portions of the bark of trees so perfectly reproduced in coal that you might fancy that they were carved by the hand of an artist. There is a map of large dimensions in the Osterhout Library, prepared by A. D. W. Smith, presenting the work of the State geological survey. This will give you a view of the great black canoe under our feet.

We can neither read the story of creation nor comprehend its magnitude. When we consider that this earth is no more than a grain of sand in the awful mystery we call space, we recognize our mental limitations.

Coal is a fuel that may be burned by means of atmospheric air with sufficient rapidity to evolve heat. The two elements that produce heat are carbon and hydrogen. Coal is produced by the partial decomposition of vegetable matter that is composed of carbon, hydrogen and oxygen, together with a small amount of so-called earthy matter. The original source of the organic part is pure water and carbonic acid of the atmosphere decomposed in the economy of plants by the action of the solar light. We see that the sun is the source of fuel.

A pound of coal contains 14.500 units of heat. If we could utilize its energy, which we can only in part, we could raise 11,194,000 pounds one foot in one minute.

Thirty-three thousand pounds in weight lifted one foot high in one minute is called a horse-power.

Charcoal, diamond, and black lead are pure carbon. Anthracite coal, nearly pure, chemically speaking, will produce more steam than semi-bituminous, but in practice this is not the case.

If we divide a piece of anthracite coal into its component parts about ninety per cent. would be fixed carbon, four per cent. volatile matter and six per cent. ashes and sulphur. The substance found in coal by combining with the oxygen of the air produces the phenomenon of combustion. The carbon gives the heat and hydrogen the flame. When coal is heated to the point of ignition the oxygen unites with the carbon and hydrogen and the result is combustion. It is a chemical change producing energy in the form of heat. The supporter of combustion is the oxygen of the atmosphere. The hydrogen burns first and maintains the temperature necessary for the combustion of the carbon.

The hot-air furnace in your cellar is a defective apparatus for manufacturing a small amount of heat. This should be supplied by a central company more cheaply. In all our furnaces it is only the gas that we burn and from which we obtain the heat. We consume from ten to fifteen pounds of coal per hour for every square foot of grate surface.

When we get the house heated we turn the heat off and send the product of combustion up the chimney as we can not put out the fire. The coal burns until it has become ashes.

We have not yet found a cheaper fuel to serve us. We will, it is hoped, invent a cheap process of manufacturing heat so that we will not be obliged to manufacture it in our kitchens and cellars. It would avoid the dirt, the handling of coal and ashes, the delay and the waste. We want heat we can produce at once without great labor.

The wood is practically gone; the coal is fast going; what are we to do for heat when these are all burned up? There seems but one way open if we are not to freeze during our long winters, namely, in some way to utilize the heat of the sun.

Scientists tell us that we get from this source a continual horse-power per square yard, and that its great force is now used in lifting grasses, trees, etc., in this growth, up in opposition to the force of gravity; in raising great rivers from the sea and in carrying them out over the land to fall as rain to keep up its purity. Whether man will be allowed to take a part of this force for his personal use is uncertain at present, but it serves our only ultimate hope. We can, of course, grow wood or other substances to burn. We can from these make alcohol for our brothers in the great cities, but the world could hardly be kept warm in this way.

CHAPTER VIII.

EARLY EVERY story has a villian or several of them. This story would not be complete without saying something about the villians of the coal fields. This part of this history the writer would prefer to leave out. The cut-throats of the coal fields are of the most cowardly and heartless of their class.

During the Civil War the Molly Maguires began to be a menace. This society was a secret organization whose purpose was to murder the officials of the coal companies. The crimes they committed were many, and as far as the public had any knowledge, were for no other purpose than to terrify the companies. They tacked warnings upon the doors of the homes of bosses on which were drawn skulls, cross-bones and coffins. The victim was often shot in the presence of his family. Sometimes they would knock at his door at night, and when he came to answer the knock he would be stabbed or shot. At other times he would be struck down in a lonely place. This society operated for a number of years and were hated and feared. A detective by the name of MacParland joined them, secured their confidence and furnished the authorities with information that resulted in the arrest of several of the leaders, who were executed.

The miners, during the latter part of the sixties, formed a labor association, and in 1870, to maintain war-time prices for mining coal, struck. The price of coal had dropped and the demand had fallen off. They made three demands. The first was that they should dictate the price of labor; the second, the price of the coal, and the third the amount mined. All the organizations among the miners since that time have tried to dictate all these questions. The first strike was not as successful as the miners expected, for the Delaware, Lackawanna and Western, the Delaware and Hudson, and the Pennsylvania Coal Company successfully resisted the demands. The other operators conceded them.

In 1877 the miners and railroad men went on a strike. At Scranton occurred the riot which is the only one where the local authorities resisted mob violence.

The brakemen and firemen of the Delaware, Lackawanna and Western, and the Delaware and Hudson held up these companies. These companies decided to protect their property. The 40,000 miners of the Lackawanna Valley were idle. They demanded an increase of twenty-five per cent.. Their wages had been decreased repeatedly. The pumps in the mines were not allowed to be operated and the mines were flooded. The railroad employes gave up after a short struggle. The miners remained out, and a

mob of five thousand men gathered and divided into two squads. One went to the furnaces and the other to the shops, and terrorized the men at work. Rioting was in full force. Mayor McKune, of Scranton, was nearly killed while trying to pacify the mob. W. W. Scranton organized a posse of fifty men who met the marching rioters near the lower end of Lackawanna Avenue. The mob made an attack on the posse, who fired into them, and four men were killed. Then Governor Hartranft came with several companies and camps were located at different points and the trouble ended.

It is not a part of my plan to discuss the differences between the miners and the operators. The great striks that was the occasion of the President of the United States appointing a commission that went over the relations between the parties concerned, and made a settlement that is in force at the present time, is fresh in the public mind. The affair at Lattimer is of the character as to be a theme the less said about the better.

The great prosperity of the coal companies make it possible for them to give their employees steady work and large pay. This and the vigorous enforcement of law is giving the public peace and security and enabling the companies to mine coal uninterruptedly.

When a man gets married or hires help he is sure to have some trouble, either with his partner or his help. The coal companies had little trouble with the railroad companies for, like married people, their interests are in common. As most of the help is foreign, and the operators were natives, and as both the miner and the operator were more careful to look after their own interest than that of any one else, the golden rule would not be their guide at all times. Then the miner could not always understand that the operator could not afford to pay more than he received for the coal.

The business of mining and marketing coal is a question of profit and loss. An immense outlay of capital is necessary, and in order to return a reasonable interest on it the coal must be obtained as cheaply as possibly and continue for a long period to return the investment. Order and system must be maintained through the many miles of road and air-courses underground. Millions of gallons of water must be taken from the mines every day. One hundred million feet of atmospheric air must be made to circulate in the miles of passageways by scientific and mechanical means without blundering, for the lives of hundreds of men are to be preserved. Fatal gas must be kept from the miners. The coal ought to be handled only once by hand from the time it is mined until it reaches its destina-

tion, even if it be to the Pacific coast. If all this can not be done with a margin of profit the whole business is a failure, and fortune, time and labor are all spent in vain.

There is coal in abundance in the ground that will last a long time at the present rate of mining it. This fact is apparent without a general estimate by the following figures furnished by the five large coal companies. The Pennsylvania and Reading has enough coal to keep them mining 350 years; the Lehigh & Wilkes-Barre, 300 years; Delaware, Lackawanna and Western, 50 years, Delaware and Hudson, 30 years, and the Erie, 50 years.

The kind of fuel we use, like environment, determines to some extent what manner of beings we become; it also creates an environment. The open fire place with the great wood fire was the center of the home life. It was a promoter of family and neighborly sociability and affection, and the very sweetest atmosphere for men and women to enjoy the happiest hours. The big chimney ventilated and carried away everything detrimental to health that existed in a closed room. The primitive cooking was as satisfactory as it was agreeable to the appetite of healthy men and women. For artistic or literary purposes the big chimney satisfies us completely.

Coal as a fuel created almost a new life for us. The romance has departed to some extent, nevertheless, coal

answers. The kerosene lamp became the center around which the family gathered. The tallow candle disappeared with the open fire place.

Men cried out for more light so they burned gas and then electricity nearly turned night into day. The stove and furnace necessitated new conveniences. They brought about a new order of architecture and a thousand expenses of which we never dreamed. Man must toil to earn the means to purchase the needs he had created. The burning coal created our present industrial world. Coal has made us, to a great extent, what we are, as well as creating a new civilization.

We are amazed as we look back at the conditions of affairs before the rebellion. No wonder that the coal business was not profitable. In brief the country was paralyzed by the grip England had on the trade of this nation. Back in colonial times we were obliged to buy all the manufactured articles we used from the mother country; after we set up a republic England proposed to compel us to furnish raw material cheap and buy the manufactured goods from her. She forbade skilled labor to come here and prohibited the importation of machinery. As she had magnificent machinery and abundance of labor at half a dollar a day, and the colonies to draw raw material from where labor was very cheap, there was no help for us as we had to put labor

against her machinery, consequently she could sell cheaper than we could produce. We could only build up our manufacturing industry by a protective tariff. We passed some mild tariff laws and at once we began to encourage home industry. Iron had a market and we prospered; then the fool came to the front and the knave who accepted British gold to open our market to her stuff. The South wanted to sell and did not want to manufacture, so she fought for free trade. With the help of that large proportion of idiots that we always have in the north, England was permitted to grow rich while our factories and furnaces went under the sheriff's hammer, and we starved. This was the condition of this country when the civil war gave the American citizen a chance and compelled him to manufacture and supply the home trade. We were poorly prepared to do this, yet, when the war closed, we had become sufficiently sane to look after our own interest and develope our resources. The Civil War was the greatest blessing that has come to this nation, even at the price it cost. We would otherwise probably have free trade to-day and be as helpless commercially and as poor and dependent as when we were a province.

This explains why there was such a demand for our coal. Furnaces started up all over the north and the iron industry became one of the great industries. Every thing we needed began to be manufactured at home, consequent-

A COAL MINER'S DAUGHTER

ly labor found abundant employment and was well compensated. The free-trader could not make his fatal policy prevail. When the war was over he began to clog the wheels of our great material growth and by his sprags crippled and impeded the prosperity we were enjoying, and the great commercial and industrial growth that was utilizing our national resources. When we became free from foreign bondage labor agitators sprang up with their damnable doctrines to rob property of its rights namely to be controlled by the owner, to take away from the American citizen his natural and lawful rights. This was as bad as England's commercial supremacy, fatal to the interest of prosperity used as a cloak by a few to control capital and labor.

Labor has had a hard road to travel, on account of the selfishness of corporations and the false political economy that was infused into the common sense economy that had in view only the rights of the laboring man.

CHAPTER IX.

HARD TIMES have made hard times for the miner and for the operators. The depression in 1873 tried everybody. This was partly due to the reaction that followed flush times that had followed in the wake of war. The several long and disastrous strikes not only brought destitution to the parties directly concerned and had no compensation, but they ruined very many tradesmen who supplied the strikers with provisions that, in most cases, were never paid for. The company stores extended credit to their men to a large extent, and were able to collect only a small part of the amount credited. The soft coal operators stepped in and supplied the market and were able to retain a large portion of the trade they had gained.

Ever since mining of anthracite began there has been a revolution going on in the methods of mining. The early miners threw a large amount of the best coal on the culm pile. The methods of mining were crude and very destructive of life. Machinery was invented and introduced gradually and mining laws were enacted to prevent the needless distruction of life. As the coal business assumed large proportions the highest skill and intelligence became employed in adjusting every thing pertaining to the busi-

ness. Transportation facilities were secured and men learned how to mine and handle coal. Then a new drawback appeared. The large companies declared open war upon each other in the market, and in competing they cut the trade to pieces and no one gained anything by the struggle. Most of the time the market was overstocked and the miner was idle a large portion of the time. The operators and the miners have come to these days of undreamed prosperity, through many trials and tribulations, many of these self-inflicted.

The company stores were a great drawback to the business man. The miner fought it though it was not an unmixed evil to him. They disappeared and the money that the coal brought to the coal region flowed out in proper channels for the benefit of all parties. The company store made it possible for the miner to trade as fast as he had money earned, consequently the home in many cases fared better than if the money were received at one time that tempted the miner to buy beer first and bread afterwards.

How a man spends his money is a private matter. The community is vitally affected, nevertheless, and every one is interested for the wages of the miner plays an important part in the mining region as well as elsewhere. We are not as dependent as in the past, yet it may be assumed that every business in the coal fields would be affected or ruined

if the wages of the miner was not flowing into them. When the mines are idle the railroads are obliged to suspend a large part of their employes, as carrying coal makes up a major part of their business. Many of the towns were created by the mines in their vicinity, and would be abandoned if coal ceased to be mined. A very large part of all that is visible that men have created in the different coal fields came, we might say, out of the mines. The miner coming along the street is one of the most unique figures imaginable, and is a common sight in every town and village except in the center of the city.

When the Poles and Huns came they were held in low estseem. The people would not rent them a decent house in a decent locality, the real estate man rejected his offers to purchase building lots, the insurance companies turned them away and the merchants felt disgraced in receiving their patronage. Now they are sought after, the John is dropped and the mister is prefixed. They lived like savages, spent their leisure in congregating in their shanties and disturbing the neighborhood by the most unearthly sounds during the entire night after pay day. This has ceased. They are now highly honored citizens. They are acquiring property and building good homes, they are dressing well and the children are being turned out of the public schools with as good a record for scholarship and behavior as other children. They are holding local offices

and are making a splendid record; they are establishing businesses and entering the professions. The dispised Pole, which composes the great majority of this class, receives at this time a large part of all the money paid to the miners, consequently we are nearly dependent on our fellow citizen called the Pole as on all the rest of the mine population combined. A miracle is taking place that is as gratifying as it is remarkable. You may often see a family, just arrived, move in a house and begin without curtains, carpets, clothes that are decent and everything else in keeping. After a few pays you can see carpets, lace curtains and good furniture. The children will appear on Sunday with their parents, dressed as well as any one on the street of the working class. They will go to their church and the evolution of a typical American citizen is well under way. They make the most of everything, are very industrious and frugal. They, as a class, are earning from fifty to a hundred dollars per month and are saving most of it. They are ceasing saving to go back home. They propose to stay with their bowl right side up when it rains porridge. They take pride in being an American citizen and in the future they will take their place as an important integral in our population. We not only need them but they are indispensible in the coal region. Every breaker would be obliged to suspend without them. These men were not miners before they came here. They were mostly poor peasants, deprived of nearly everything we

enjoy, consequently it is impossible for us to comprehend what a revolution in every way under the present favorable condition they are experiencing.

The home life among the miners is not different or less the center of what makes life desirable than among other workmen except in that of late arrivals from central Europe. All over the coal fields are thousands of homes owned by mine workers that are attractive and modern. All along the mountains, in beautiful localities the workman has built himself an abode where his children play under the green trees and wade in the picturesque brook. In the Wyoming Valley in every direction the beautiful hills stretch away and nature furnishes a feast for the soul that is sensible to its charms. Beauty, beauty everywhere dispensing benefits to all.

Our population is composed of nearly every nationality, yet this hetrogenous mingling of many nationalities, tongues and religious beliefs results in very little friction. There is a feeling of conscious security and no man regards his neighbor's family affairs, his political proclivities or religious belief any of his concern. Hundreds of churches proclaim that God is worshiped and that faithful men are striving to instill moral and religious teaching in the lives of those under their charge. No church writes over its door that heaven is a closed shop and no one can enter without his card.

Day and night the mighty army of toilers in the great harvest fields deep in the earth gathers the harvest that the Almighty put there before man was created for his gathering. In every direction great trains of cars, loaded with the stored up energy of the sun is carrying our mineral wealth all over the land. From out of the home of the coal miner men and women are going to serve in the work of the world.

The children of the miners are to be found in every profession, every position of honor and trust, where ability and faithfulness are in demand.

There are very many different conditions of life, all admirable except where viciousness, ignorance and intemperance intrude to spoil what is fair.

Figures do not stimulate or assist the imagination to a degree sufficient to enable us to realize the bulk of the coal mined in one year. The best we can do is to report that approximately seventy millions tons is mined in a year. Of this amount about six millions tons are used for fuel at the mines, between one and two millions tons are sold to the local trade, the rest are shipped to the market.

More than fifty per cent. of the accidents are caused by "falls," fifty per cent. the result of carelessness, according to the most reliable statistics. Somewhere near 520 lives are lost in and about the mines every year. Between

thirteen and fourteen hundred are injured. This means many widows and orphans. An accident causes delays and disturbs the routine. Men must leave their work to care for the killed or injured, and when the accident is fatal there is usually an expensive funeral and very often the mine is obliged to suspend operation while the miners attend.

Mining coal is a hazardous occupation, dangers seen on every hand. There is danger all the time. If the miner escapes accident miner's asthma is liable to seize him. The family at home is never entirely free from the dread that the bread winner may be carried home dead or maimed.

The mines are damp, dark, dangerous places, and the man who labors there for bread should be well paid, provision made to care for him when injured, and bury him when he is killed. The widow and the orphans need some maintenance and the aged who are unable to help themselves should not be obliged to go to the poor house. All these needs are either being met or are being considered and the best provision possible will be made.

Our hospitals receive large contributions from the coal companies. The injured miner is given care and medical service.

The D., L. & W. have a hospital car equipped in the charge of Dr. D. H. Lake, and a car equipped with fire apparatus always ready, stationed at Kingston.

As we behold the coal field we receive the impression that nature has passed through a great number of terrible convulsions. We see the beds of coal in the middle and southern coal fields thrown up in every conceivable angle, broken in two and twisted as if they were only potter's clay in the hands of the potter. At various points our mountains are rent in twain from the bottom to the top and a wide gorge opened; everywhere we see rocks piled up and thrown in every direction. We find great boulders of conglomerate that are an importation to the locality where they rest, and evidence on every hand of tremendous upheavals and the indications that great forces were at work in the past. The scientist does not conclude that the mighty works of nature was accomplished by fits and starts or that the mountains were raised and the valleys depressed by earthquakes, volcanos or convulsions, quite the opposite, that is to say, if we could have witnessed the forming of what we behold we could not have detected nature at work no more than we can see a plant grow or detect the movement of the earth.

We have the testimony of the rocks that even the uninformed may read many things of interest. All along the face of the exposed ledges the face is worn by the great volume of water that must have poured through the gorges. Large boulders of conglomerate are worn smooth and creased by the erosion of a glacier. In the coal or the broken stone from the mines we see the impression of plants

and find even large portions of great trees turned into coal. Everywhere we look there are lessons to be learned and some evidence of the way nature came to her ends.

The glacier moves very slow and the lateral pressure that pushes up mountains and depresses valleys have undoubtedly taken a very slow pace to perform great tasks. The same forces that worked in the past are working now and with just as rapid movement.

What has our coal wrought? We can not compute the benefits, neither can we compute the sum total of the wealth that we have received from the carbonized fossil. The world has shared this wealth and all that it has created. Our colleges are filled with men being educated with the earnings of mine workers, the country is threaded with railroads and manufacturers that would not have existed unless anthracite was mined. The ignorant and impoverished foreigner would not to-day walk our streets well dressed, well housed and fed, except the well compensated labor of his hands purchased these things. The hundreds of churches where every man worships God according to the dictates of his conscience would not provide for the spiritual need of the great mass of humanity, the necessities and luxuries of life would not be enjoyed by all classes so that everything that elevates and makes life pleasant and elevated is almost thrust upon all. It has opened the door of opportunity to the youth and made the home a center of

those things that supplies all those blessed benefits that would mold character and shape the destiny of the individual and a nation. Education and culture have made ignorance contemptible and inexcusable and have made the principals of religion and morality bear their beautiful blossoms and nutritous fruit. God thought of us and considered our needs before he created us, and every pound of anthracite declares that there is a God and that we are His children.

PORTRAITS.

Ario Pardee, opened the Middle Coal Field.

Geo. B. Markle, designed the coal breaker.

Charles Parrish, the greatest leader in the development of anthracite coal.

Irving A. Stearns, the leading engineer in the coal fields.

John Markle, president of the largest individual coal company in the world.

S. D. Warriner, general manager of the Lehigh Valley Coal Co., and member of the Conciliation Board.

W. G. Payne, a successful individual operator. John C. Haddock and Geo. F. Lee are also well-known individual operators, as was the late Morgan B. Williams, all of Wyoming Valley.

Elmer H. Lawell, prominent engineer. Was general superintendent of the Lehigh and Wilkes-Barre Coal Co. from 1890 to 1898.

William Connell, of Scranton, a great leader in the industrial and public life of Northeastern Pennsylvania. Other operators are W. R. Stores, T. H. Watkins, C. D. Simpson, R. G. Brooks, T. H. Dale and E. L. Fuller.

W. J. Richards, Pottsville, second vice-president and general manager of the Philadelphia & Reading Coal and Iron Co.

William T. Payne, of Kingston, well-known operator.

Henry Myers, of Minersville, general manager.

JL